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ABSTRACT

This book provides an in-depth examination of the strategies, structure, and operation of intervention programs for minority and female students in mathematics and sciences in grades 4 through 8. In Part 1, Chapter 1 discusses the barriers to female and minority participation in mathematics and science and the need for intervention. Chapter 2 explains why intervention efforts are needed at the middle school level and describes the changes that can help minority and female students attain proficiency. In part 2, chapters 3 and 4 describe intervention approaches and strategies, liken those approaches to their bases in research and theory, and provide concrete examples of their use in middle school intervention programs. Parts 3 and 4 discuss the delivery systems for the strategies and approaches described in earlier sections. In part 3, chapter 5 develops a conceptual framework for analyzing programs, describes the key components of an effective program and how they interact, while chapter 6 discusses program outcomes and contextual elements. The chapters in part 4 present a guide to implementing a program and discuss issues of institutionalization. The appendixes present case studies of 10 effective programs; a directory of successful intervention programs (including useful materials available from them), and contains 268 references. (JB)

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